REMARKS

The Final Office Action mailed June 5, 2008 and reconsideration of the above-identified application, as amended, in view of the following remarks, is respectfully requested. Claims 1-9 and 11-20 are pending and stand rejected. Claim 10 has been cancelled without prejudice.

Claims 1-20 stand rejected under 35 USC 101 as allegedly being directed to non-statutory subject matter. Claims 1-20 stand rejected under 35 USC 102(v) as being anticipated by Gigi (WO 99/59139).

Claims 1-20 stand rejected under 35 USC 101 as allegedly being directed to non-statutory subject matter. More specifically, claims 1-9 stand rejected as being directed to manipulation of an abstract idea without a claimed limitation to a practical application. Claims 11-17 stand rejected as the various means disclosed in the specification amount to a computer program. Claims 18-20 stand rejected as the various means disclosed in the specification amount to a computer program.

Applicant respectfully disagrees with and explicitly traverses the rejection of the claims. However, with regard to claims 1 and 4, applicant has elected to amend the claims to explicitly recite a speech processing system executing the recited element steps. Further as shown in Figs. 5 and 10, a physical transformation is done on natural speech, or sound waves from a text-to-speech system, to produce a tangible result in the field of text-to-speech synthesis. No new matter has been added. Support for the amendment may be found at least on page 8, lines 3-41 and Figure 5.

With regard to claims 11, 14, 18 and 20 applicant submits that these claims are in the form of means plus function and that adequate structural support of the means for performing the recited function may be found at least in Figure 10 and on page 10, lines 25-31. Pursuant to 35 USC 112, sixth paragraph, the recitation of the subject matter claimed as the invention in means plus function form is acceptable and, as the courts have

held, in reciting subject matter in means plus function format merely requires supporting structure be found in the specification. In this case, the specification teaches "a personal computer, which has been programmed to implement the present invention." See Fig. 10 and page 10, line 26 – page 11, line 24. Moreover, the structure of apparatus 950 of Fig. 10 recites a speech analysis module and a low-pass filter module 953, both of which are used for physical transformations and producing a tangible result. Accordingly, applicant submits that the rejection of claims 11, 14, 18 and 20 have been overcome and no amendments need be made to overcome the cited rejection.

For the amendments made to the claims and for the remarks made, herein, applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn.

Claims 1-20 stand rejected under 35 USC 102(b) as being anticipated by Gigi (WO 99/59139). Applicant respectfully disagrees with and explicitly traverses the rejection of the claim. In rejecting claims 1 and 11, the Final Office Action refers to Gigi '139, page 6, line 6 to page 7, line 12; page 12, line 30 to page 13, line 22, for teaching the claim element of "determining the phase difference between the speech signal and the first harmonic signal for centering a windowing function, wherein said phase difference is determined between a maximum of said speech signal and a phase zero of the first harmonic of the speech signal." In these sections Gigi teaches analysis segments are analyzed to determine the phase values (and amplitude) of a plurality of harmonic frequencies within the segment. See page 6, line 6-8. Further, although, (1) Gigi teaches comparing the phase of neighboring segments for determining a contribution of a periodic and aperiodic signal (noise) components to the selected segments, see page 6, line 31-34; and (2) discloses determining an accurate estimate of the pitch value by determining a zero crossing of the highest harmonic within the required frequency band (see page 9, line 32- page 10, line 3), thus, determining a maximum and a pitch based on a zero crossing of the highest harmonic to determine the center of the windowing functions; it does not teach determining the phase difference between the speech signal

and the first harmonic signal… wherein said phase difference is determined between a maximum of said speech signal and a phase zero of the first harmonic of the speech signal."

In rejecting claims 4 and 14, the Office Action refers to Gigi'139, page 8, line 12 to page 9, line 29; page 12, lines 3-27, page 13, line 1 to page 14, line 8, for teaching the claim element of "a phase difference between a speech signal and the first harmonic." Although, (1) windowing functions are used, see page 8, line 12-16, (2) a concatenation of filtered pitch detection segments is done, which is used to determine a for the pitch period/frequency, see page 12, line 6-7; and (3) determining a phase value for a plurality of harmonics of the fundamental frequency as derived from the determined pitch period, which are used to estimate a noise value for each harmonic, see page 12, line 30 to page 14, line 8; applicants can find nothing therein that teaches "…selecting of windowed diphone samples, the diphone samples being windowed by a window function being centered with respect to a phase angle which is determined as -a phase difference between a maximum of said speech signal and a zero crossing of a first harmonic of the speech signal…" as claimed.

A claim is anticipated if and only if each and every element of the claim is recited in a single prior art reference.

Gigi '139 cannot be said to anticipate the subject matter recited in each of the independent claims, as Gigi '139 fails to disclose a material element recited in each of the independent claims.

For the amendments made to the claims and for the remarks made herein, applicant submits that the rejection of each of the independent claims has been overcome and respectfully requests that the rejections be withdrawn.

With regard to the remaining claims, each of these claims depends from one of the independent claims, and, hence, is also not anticipated by Gigi '139 by virtue of their dependency upon an allowable base claim.

For all the foregoing reasons, it is respectfully submitted that all the claims are in allowable form and entry of this amendment and the issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,

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